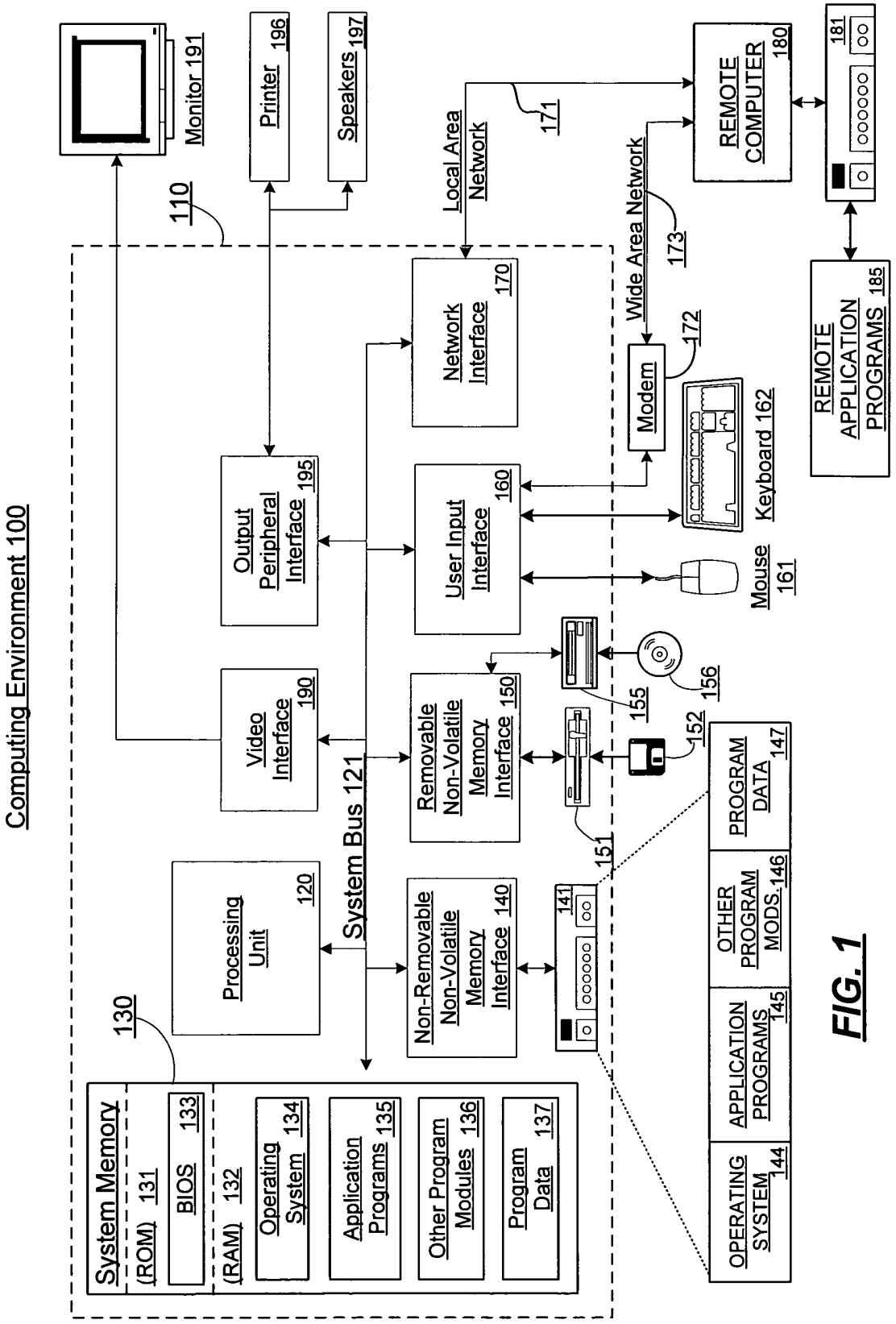

Computing Environment 100
110
Monitor 191
Printer 196
Speakers 197
Local Area Network
171
REMOTE COMPUTER 180
181
Wide Area Network
173
Network Interface 170
Modem 172
REMOTE APPLICATION PROGRAMS 185
Output Peripheral Interface 195
User Input Interface 160
Keyboard 162
Mouse 161
Video Interface 190
Removable Non-Volatile Memory Interface 150
155
156
152
151
System Bus 121
Processing Unit 120
Non-Removable Non-Volatile Memory Interface 140
141
130
System Memory
(ROM) 131
BIOS 133
(RAM) 132
Operating System 134
Application Programs 135
Other Program Modules 136
Program Data 137
OPERATING SYSTEM 144
APPLICATION PROGRAMS 145
OTHER PROGRAM MODS. 146
PROGRAM DATA 147

FIG. 1

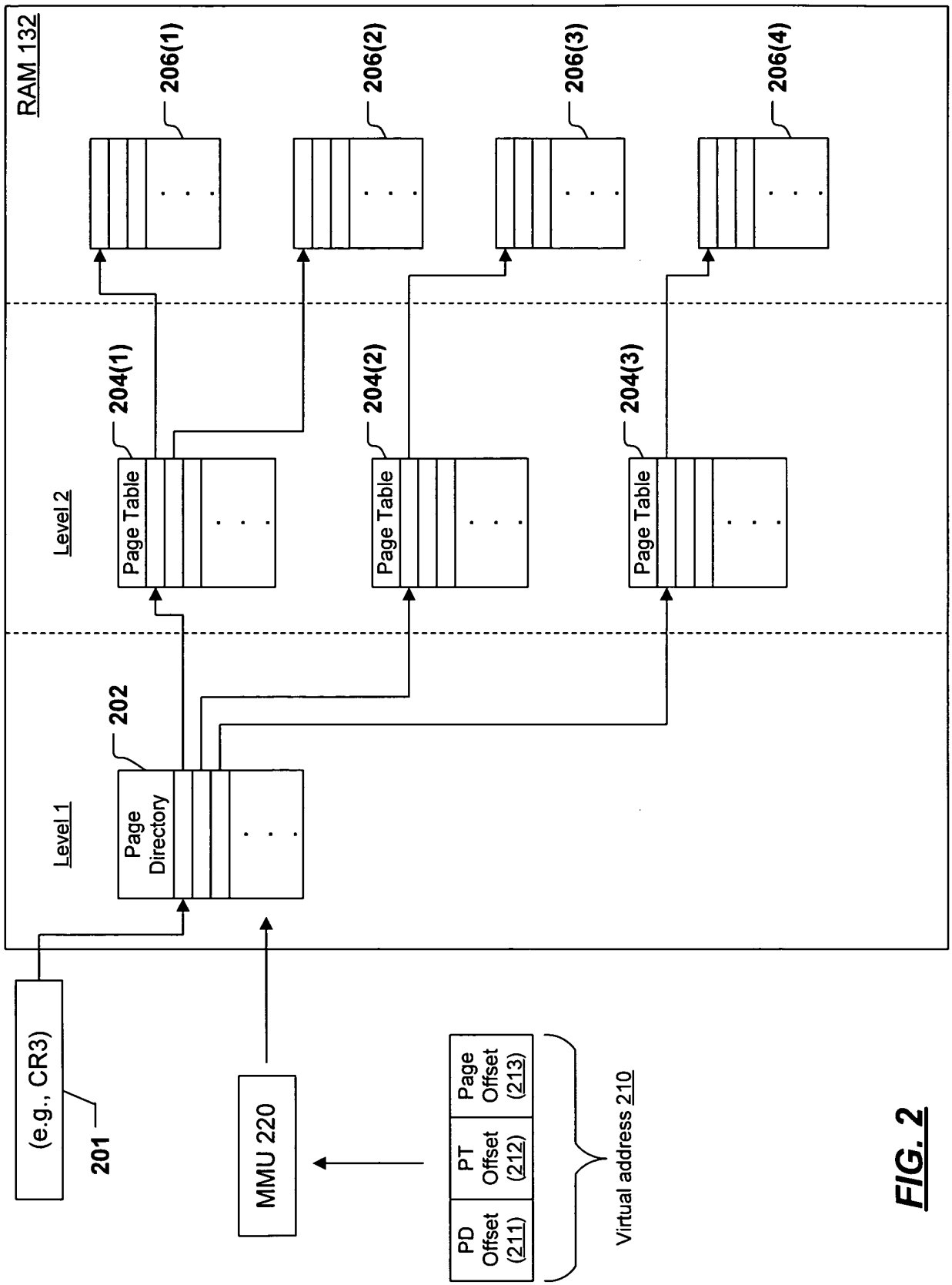

RAM 132
206(1)
206(2)
206(3)
206(4)
204(1)
204(2)
204(3)
Page Table
Page Table
Page Table
Level 2
202
Page Directory
Level 1
(e.g., CR3)
201
MMU 220
PD Offset (211)
PT Offset (212)
Page Offset (213)
Virtual address 210

FIG. 2

300

PFN (302)	L/S (304)	R/O (306)	Pres. (308)

FIG. 3

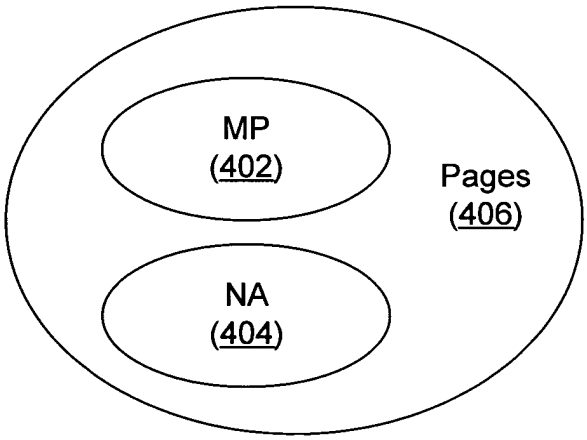


FIG. 4

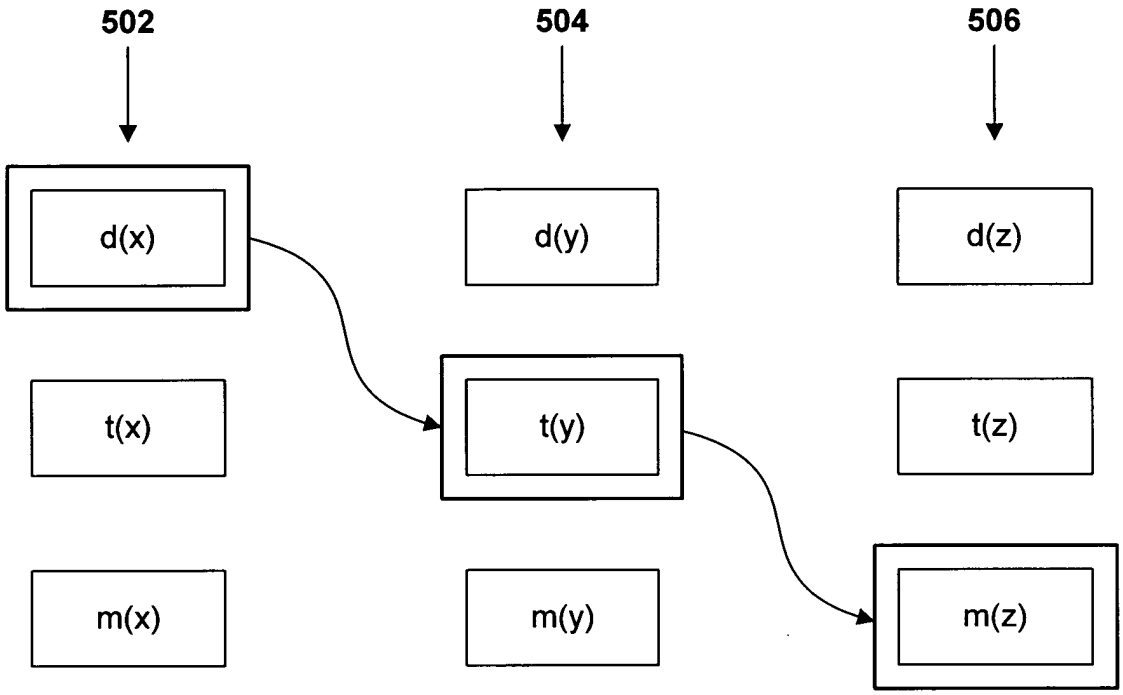


FIG. 5

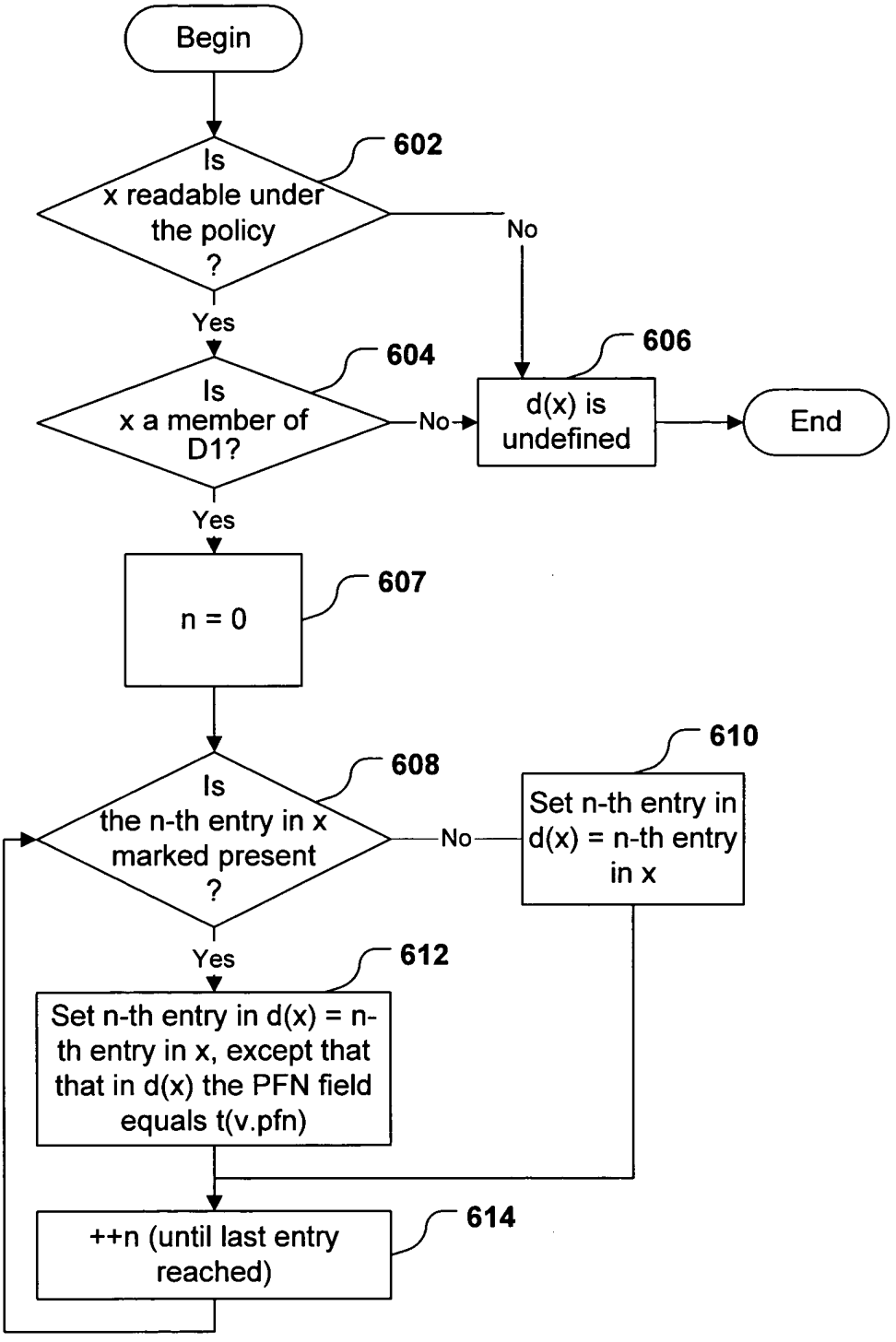
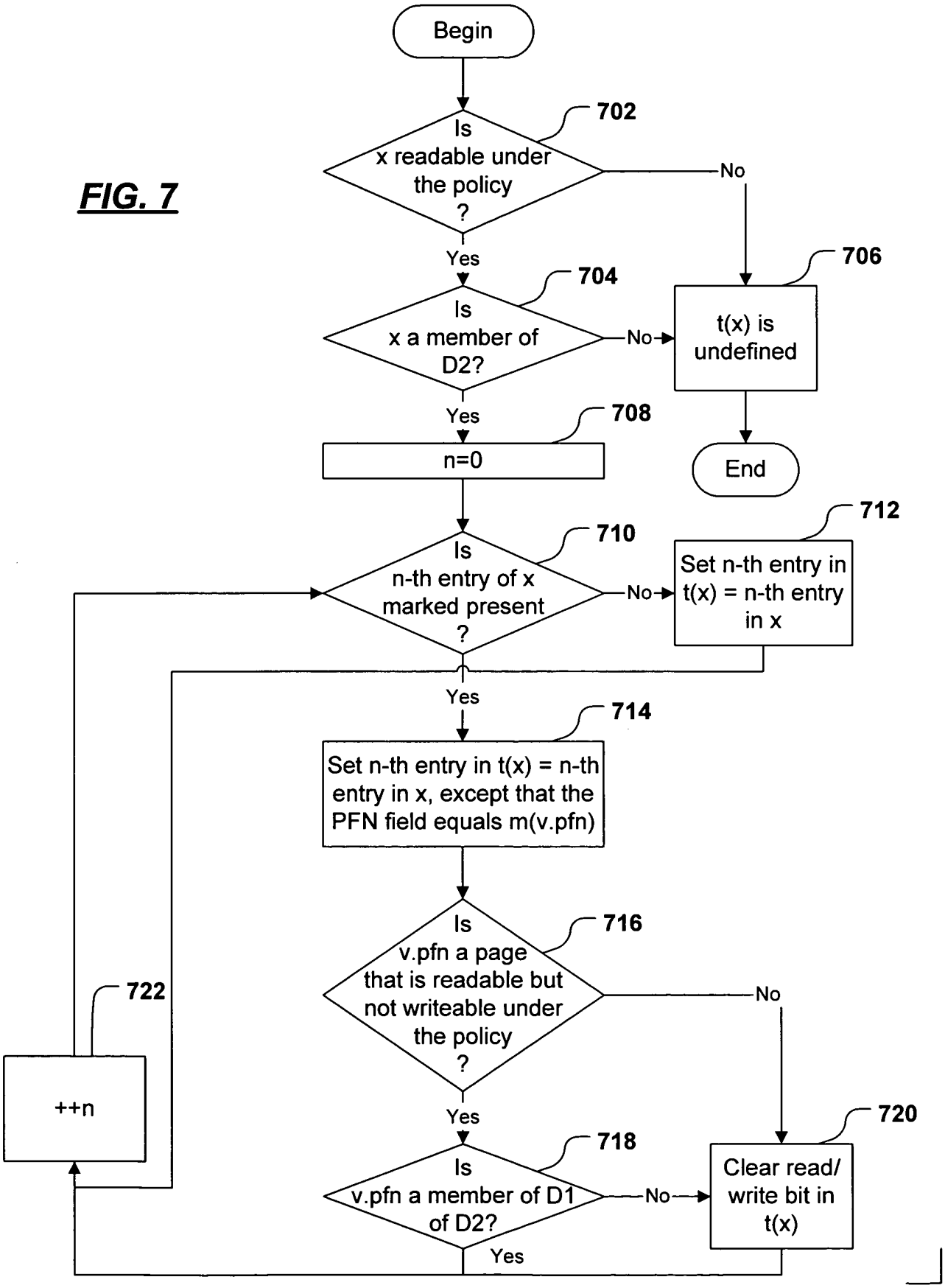

Begin
602
Is x readable under the policy ?
No
Yes
604
Is x a member of D1?
No
606
d(x) is undefined
End
Yes
607
n = 0
608
Is the n-th entry in x marked present ?
No
610
Set n-th entry in d(x) = n-th entry in x
Yes
612
Set n-th entry in d(x) = n-th entry in x, except that that in d(x) the PFN field equals t(v.pfn)
614
++n (until last entry reached)

FIG. 6

FIG. 7


Begin
Is x readable under the policy ?
702
No
Yes
Is x a member of D2?
704
No
t(x) is undefined
706
Yes
n=0
708
End
Is n-th entry of x marked present ?
710
No
Set n-th entry in t(x) = n-th entry in x
712
Yes
Set n-th entry in t(x) = n-th entry in x, except that the PFN field equals m(v.pfn)
714
Is v.pfn a page that is readable but not writeable under the policy ?
716
No
Yes
Is v.pfn a member of D1 of D2?
718
No
Clear read/ write bit in t(x)
720
Yes
++n
722